Claims

What is claimed is:

1. A composition comprising at least one film-forming hydrophilic colloid and at least one ceramic nanoparticle material.

2. A composition according to claim 1, comprising
   a. 25 - 99.9 parts by weight film-forming hydrophilic colloid; and
   b. 0.1 - 75 parts by weight ceramic nanoparticle material.

3. A composition according to claim 1, comprising
   a. 50 - 95 parts by weight film-forming hydrophilic colloid; and
   b. 5 - 50 parts by weight ceramic nanoparticle material.

4. A composition according to claim 1, comprising
   a. 70 - 90 parts by weight film-forming hydrophilic colloid; and
   b. 10 - 30 parts by weight ceramic nanoparticle material.

5. A composition according to claim 1, additionally comprising water.

6. A composition according to claim 5, comprising 1000 parts by weight water.

7. A composition according to claim 1, wherein the film-forming hydrophilic colloid comprises a gelatin.

8. A composition according to claim 1, wherein the ceramic nanoparticle material comprises one or more metal oxides.

9. A composition according to claim 8, wherein said one or more metal oxides are selected from the group consisting of titania and alumina.

10. A composition according to claim 8, wherein said one or more metal oxides are alumina.

11. A composition according to claim 1, wherein average particle size of the ceramic nanoparticle material ranges from 3 nm to 100 nm.

12. A composition according to claim 1, wherein average particle size of the ceramic nanoparticle material ranges from 5 nm to 50 nm.

13. A composition according to claim 1, wherein average particle size of the ceramic nanoparticle material ranges from 10 nm to 30 nm.

14. A composition according to claim 1, wherein maximum particle size of the ceramic nanoparticle material is 100 nm.

15. An scratch-resistant imaging element comprising

a support, and

a layer comprising at least one film-forming hydrophilic colloid and at least one ceramic nanoparticle material.

16. A scratch-resistant imaging element according to claim 15, wherein the layer is an imaging layer.

17. A scratch-resistant imaging element according to claim 15, wherein the layer is a protective layer, and the scratch-resistant imaging element additionally comprises an imaging layer.

18. A scratch-resistant imaging element according to claim 15, wherein the layer comprises:

a. 50 - 95 parts by weight film-forming hydrophilic colloid; and

b. 5 - 50 parts by weight ceramic nanoparticle material.

19. An scratch-resistant imaging element according to claim 15, wherein the layer comprises:

a. 70 - 90 parts by weight film-forming hydrophilic colloid; and

b. 10 - 30 parts by weight ceramic nanoparticle material.

20. An scratch-resistant imaging element according to claim 15, wherein the film-forming hydrophilic colloid comprises a gelatin.

21. An scratch-resistant imaging element according to claim 15, wherein the ceramic nanoparticle material is alumina.

22. A method for fabricating a scratch-resistant imaging element having optical clarity, the method comprising

a. dispersing a ceramic nanoparticle material in an aqueous solution of a film-forming hydrophilic colloid to form a coating composition;

b. applying the coating composition to a surface of a support for an imaging element;

c. drying the coated surface; and, optionally,

d. aging the dried coated surface,

whereby an imaging element having both optical clarity and resistance to scratching is produced.